## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

## LISTING OF CLAIMS

**1.** (currently amended) A network access control device through in series deterministic recognition of application frames satisfying a set of predetermined syntactical rules comprising:

[[-]] means ~~(205)~~ for monitoring and interpretation of the application frames to recognize;

[[-]] means ~~(201)~~ for storing predetermined syntactical rules;

[[-]] means ~~(202)~~ for compiling the predetermined syntactical rules in a direct access data structure;

[[-]] means ~~(203)~~ for storing said direct access data structure; and

[[-]] means ~~(204)~~ for comparing the application frames to be recognized with said direct access data structure,

whereby the recognition can be performed on any frame component and the direct access data structure allows an access time substantially independent from the number of rules,

~~characterized in that it~~ wherein the network access control device further comprises forwarding means, for forwarding the application frame when recognized and return-to-sender means, for returning of the application frame when not recognized , and wherein the means for monitoring and interpretation of the application frames comprise:

a) a data packets monitoring device at a layer corresponding to the OSI layer 2, said data packets comprising control frames and information frames, wherein the control and information frames contain a header portion and a body portion, said header portion allowing the distinction between an information frame and a control frame;

b) a control unit receiving as an input the data coming from the monitoring device and comprising means for the discrimination of the control frames from the information frames;

c) a dating unit connected to the control unit and associating a monitoring time to the control frames and to the information frames;

d) a discriminated data storing unit, storing the control and the information frames and the monitoring time thereof, bidirectionally connected to the control unit;

e) a predetermined data storing unit, bidirectionally connected to the control unit, said predetermined data representing possible interpretations of the information frames contained in the discriminated data storing unit;

f) means for comparing, by the control unit, said predetermined data stored in the storing unit with the data contained in the body portion of the information frames stored in the discriminated data storing unit, thus reconstructing the information frames according to their specific application syntax;

g) means for ordering, according to the time and kind of communication, the information frames reconstructed according to their specific application syntax, thus reconstructing application sequences occurred between a determined source processor and a determined destination processor; and

h) means for ordering said information frames ordered according to the time and kind of communication also according to a logical criterion, thus reconstructing the logical path of said application sequences occurred between a determined source processor and a determined destination processor.

**2.** (currently amended) The access control device according to claim 1, wherein ~~characterized in that~~ said compiling means ~~(202)~~ of the predetermined syntactical rules comprise:

[[-]] conversion means, for converting the predetermined syntactical rules in a set of basic sequences of numerical identifiers; and

[[-]] compression means, for compressing the set of sequences thus obtained in a direct access data structure.

3. (currently amended) The access control device according to claim 1, wherein ~~characterized in that~~ said return-to-sender means, for returning the application frames when not recognized, return information related to the reason of the failed forwarding.

4. (currently amended) The access control device according to claim 1, wherein ~~characterized in that~~ the predetermined syntactical rules are stored as pairs of <object>/<action> fields.

5. (currently amended) The access control device according to claim 4, wherein ~~characterized in that~~ the predetermined syntactical rules are stored as pairs of <data type>/<data value> fields.

6. (currently amended) The access control device according to claim 4, wherein ~~characterized in that~~ the predetermined syntactical rules include one or more joker values.

7. (currently amended) The network access monitoring device according to claim 4, wherein ~~characterized in that~~ the field <action> refers to the minimal set of commands

- Push
<value>
<variable>
<reading position>
<value at the reading position>
- Pop
<variable>
<reading position>
<at the reading position>
- And
- Mul
- Add
- Equal

- Next
- F_send_all
- F_dynamic.

**8.** (currently amended) The access control device according to claims 2, wherein ~~characterized in that~~ the direct access data structure is represented through a matricial structure comprising object fields and action fields.

**9.** (canceled)

**10.** (currently amended) The access control device according to claim [[9]] 1, wherein ~~characterized in that~~ said means for ordering said information frames according to a logical criterion comprise means for reciprocally comparing the body portion of the information frames.

**11.** (currently amended) The access control device according to claim [[9]] 1, wherein ~~characterized in that~~ said means for ordering said information frames according to a logical criterion comprise means for comparing each sequence of body portions of the information frames with a set of predetermined sequences, said predetermined sequences representing possible interpretations of the information frames sequences contained in the discriminated data storing unit (17), said predetermined sequences being contained in said predetermined data storing unit (18).

**12.** (currently amended) The access control device according to claim 1, wherein ~~characterized in that~~ it is implemented using a board installed on the processor on which the client applications operate.

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